



Jerome Middle School students are among many in Idaho learning about wind energy through a turbine at their schools. INL promotes hands-on energy education through the Wind for Schools program.

## INL helps students, researchers study wind energy

By [Ryan Weeks](#), INL Communications & Governmental Affairs

The wind turbines spinning outside Idaho schools are generating more than electricity.

The 35- to 70-foot structures are teaching students about renewable energy and sparking their interest in energy and science.

As part of a statewide [Wind for Schools](#) program, Idaho National Laboratory is helping Idaho schools expose students to a unique style of hands-on energy education. Installing a turbine next to schools gives students a structure they can see and touch. Teachers are using the data from each turbine to help students understand and predict wind power.

"What we're really trying to do is build excitement for science- and technology-based fields, and this is the kind of hands-on technology that gets kids excited," said INL researcher Gary Seifert.

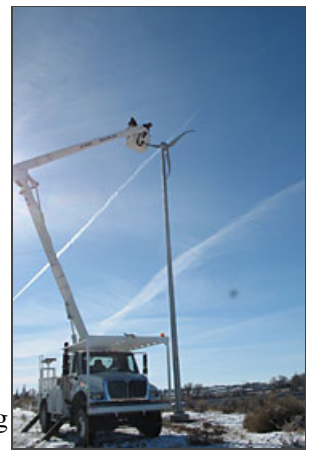
Wind for Schools is part of the Department of Energy's [Wind Powering America](#) program, which is dedicated to increasing the amount of wind energy produced in the United States. The program provides a unique learning experience for students by installing small wind turbines in rural elementary and secondary schools while developing a [Wind Application Center](#) at higher education institutions.

Known for its world-leading nuclear research, INL got involved with the Wind for Schools program in 2007 when laboratory employees helped install a turbine at [Skyline High School](#) in Idaho Falls.

In 2008, DOE sponsored Idaho's Wind Application Center at Boise State University. The center gives college students wind energy experience and also supports the participating Idaho schools.

"The turbines are sponsored by local community organizations, and INL works hand in hand with the Wind Application Center to get the turbines installed and connected to the network," said Mark McKay, INL's Wind for Schools communications principal investigator.

Once turbines are connected to the network, students can compare data from their school's turbine with the data from other schools across the country. Data from each of the Idaho Wind for Schools turbines can be viewed at <http://wind-for-schools.caesenergy.org>.



***Real-time data from two types of co-located wind turbines lets students and researchers compare performance in nearly identical conditions.***



***INL's Jake Gentle helps install a Skystream wind turbine at INL's Center for Advanced Energy Studies.***

In addition to the turbines at the individual schools, INL has recently erected two wind turbine power systems at the lab's [Center for Advanced Energy Studies](#) (CAES), a collaboration with Idaho's three public research universities.

The [Skystream](#) and [Blackhawk](#) turbines at CAES are completely different designs, with one spinning vertically and the other spinning horizontally.

The Skystream data is now online and soon the Blackhawk data will be available, allowing students and university researchers to compare the turbines in nearly identical conditions and use the data for experiments and ongoing classroom activities.

"Having the two turbines side by side creates an opportunity for comparative, inquiry-based learning," said Seifert.

Once a turbine is installed and its data is online, the next challenge for teachers is figuring out what to do with the information.

Earlier this year, INL unveiled a new Internet resource called [Energy for Educators](#). The Web site provides teachers with energy-related activities

and lesson plans for all ages. The wind plans range from being as simple as elementary students making pinwheels and averaging wind speeds to high school students determining optimal windmill blade designs.

Through these programs, INL continues to support the development of energy-related curriculum in the classroom.

"Energy is something that affects all of us and is something students can relate to and understand," said Seifert.

Read more about the [Skystream system](#), the [Blackhawk system](#) and the [Energy for Educators](#) program.

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